

SEQUENCE LISTING



(1) GENERAL INFORMATION:

(i)(a) APPLICANT:

(A) NAME: Henrik Stender
(B) STREET: Fasanhaven 5
(C) CITY: Gentofte
(E) COUNTRY: Denmark
(F) POSTAL CODE (ZIP): DK-2820

(b) APPLICANT:

(A) NAME: Kaare Lund
(B) STREET: A.D. Jorgensvej 193 tv
(C) CITY: Frederiksberg
(E) COUNTRY: Denmark
(F) POSTAL CODE (ZIP): DK-2000

(c) APPLICANT:

(A) NAME: Tina Anderson Mollerup
(B) STREET: Lejrevej 14, Allerslev
(C) CITY: Lejre
(E) COUNTRY: Denmark
(F) POSTAL CODE (ZIP): DK-4320

(ii) TITLE OF INVENTION: **Novel Probes For The Detection of Mycobacteria**

(iii) NUMBER OF SEQUENCES: 123

(iv) CORRESPONDENCE ADDRESS: GRAHAM & JAMES LLP

(A) ADDRESSEE:
(B) STREET: 885 Third Avenue
(C) CITY: New York
(D) STATE: New York
(E) COUNTRY: USA
(F) ZIP: 10022

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk 3.5 inch
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: ASCII
(D) SOFTWARE: Microsoft Word

(vi) CURRENT APPLICATION DATA:

- (A) APPLICATION NUMBER: 08/943,777
- (B) FILING DATE: October 3, 1997

(vii) PRIOR APPLICATION DATA:

- (A) APPLICATION NUMBER: 60/028,392
- (B) FILING DATE: 10/15/96
- (A) APPLICATION NUMBER: 60/029,595
- (B) FILING DATE: 10/23/96
- (A) APPLICATION NUMBER: 05/05/97
- (B) FILING DATE: 05/08/97

(viii) ATTORNEY/AGENT: Vineet Kohli, Reg. 37,003

(ix) TELECOMMUNICATION INFORMATION:

- (A) TELEPHONE: (212) 848-1065
- (B) TELEFAX: (212) 688-2449

(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

AGATCGGGGT AGCAC

15

(3) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

TGTTTTCTCC TCCTA

15

(4) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs

- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

ACTGCCTCTC AGCCG

15

(5) INFORMATION FOR SEQ ID NO: 4:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 basepairs
 - (B) TYPE: nucleic acid basepairs
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

TGATACTAGG CAGGT

15

(6) INFORMATION FOR SEQ ID NO: 5:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 basepairs
 - (B) TYPE: nucleic acid basepairs
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

CGGATTCACA GCGGA

15

(7) INFORMATION FOR SEQ ID NO: 6:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 basepairs
 - (B) TYPE: nucleic acid basepairs
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

TCACCACCCT CCTCC

15

(8) INFORMATION FOR SEQ ID NO: 7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

TTAACCTTGC GACAT 15

(9) INFORMATION FOR SEQ ID NO: 8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

ACTATTCACA CGCGC 15

(10) INFORMATION FOR SEQ ID NO: 9:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

CTCCGCGGTG AACCA 15

(11) INFORMATION FOR SEQ ID NO: 10:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs

- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 10

GCTTTACACC ACGGC 15

(12) INFORMATION FOR SEQ ID NO: 11:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

ACGCTTGGGG GCCTT 15

(13) INFORMATION FOR SEQ ID NO: 12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

CCACACCCAC CACAA 15

(14) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

CCGGTGGCTT CGCTG 15

(15) INFORMATION FOR SEQ ID NO: 14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

ACTTGCCTTG TCGCT

15

(16) INFORMATION FOR SEQ ID NO: 15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 15:

GATTCGTCAC GGGCG

15

(17) INFORMATION FOR SEQ ID NO: 16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

AACTCCACAC CCCCCG

15

(18) INFORMATION FOR SEQ ID NO: 17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

ACTCCACACC CCCGA 15

(19) INFORMATION FOR SEQ ID NO: 18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

ACCCCTTCGC TTGAC 15

(20) INFORMATION FOR SEQ ID NO: 19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 19:

CTTGCCCCAG TGTTA 15

(21) INFORMATION FOR SEQ ID NO: 20:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

CTCTCCCTAC CGGCT 15

(22) INFORMATION FOR SEQ ID NO: 21:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

GATATTCCGG TCCCC

15

(23) INFORMATION FOR SEQ ID NO: 22:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

ACTCCGCCCC AACTG

15

(24) INFORMATION FOR SEQ ID NO: 23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

CTGTCCCTAA ACCCG

15

(25) INFORMATION FOR SEQ ID NO: 24:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

TTCGAGGTTA GATGC

15

(26) INFORMATION FOR SEQ ID NO: 25:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

GTCCCTAAAC CCGAT

15

(27) INFORMATION FOR SEQ ID NO: 26:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

GGTGCACCAG AGGTT

15

(28) INFORMATION FOR SEQ ID NO: 27:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

CTGGCGGGAC AACTG

15

(29) INFORMATION FOR SEQ ID NO: 28:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 28:

TTATCCTGAC CGAAC

15

(30) INFORMATION FOR SEQ ID NO: 29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

GACCTATTGA ACCCG

15

(31) INFORMATION FOR SEQ ID NO: 30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

GAAGAGACCT TTCCG

15

(32) INFORMATION FOR SEQ ID NO: 31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

CACTCGAGTA TCTCC

15

(33) INFORMATION FOR SEQ ID NO: 32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

ATCACCCACG TGTTA

15

(34) INFORMATION FOR SEQ ID NO: 33:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

GCATCCCGTG GTCCT

15

(35) INFORMATION FOR SEQ ID NO: 34:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

CACAAGACAT GCATC

15

(36) INFORMATION FOR SEQ ID NO: 35:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs

- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

TAAAGCGCTT TCCAC 15

(37) INFORMATION FOR SEQ ID NO: 36:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

GCTCATCCCA CACCG 15

(38) INFORMATION FOR SEQ ID NO: 37:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

CCGAGAGAAC CCGGA 15

(39) INFORMATION FOR SEQ ID NO: 38:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

AGTCCCCACC ATTAC 15

(40) INFORMATION FOR SEQ ID NO: 39:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

AACCTCGCGG CATCG

15

(41) INFORMATION FOR SEQ ID NO: 40:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 40:

GGC TTTTAAG GATTC

15

(42) INFORMATION FOR SEQ ID NO: 41:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 41:

GACCCCGATC CGAAC

15

(43) INFORMATION FOR SEQ ID NO: 42:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs

- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 42:

CCGACTTCAC GGGGT 15

(44) INFORMATION FOR SEQ ID NO: 43:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 43:

CGGAGGGGCA GTATC 15

(45) INFORMATION FOR SEQ ID NO: 44:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 44:

GATCAATGCT CGGTT 15

(46) INFORMATION FOR SEQ ID NO: 45:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 45:

TTCCCCGCGT TACCT 15

(47) INFORMATION FOR SEQ ID NO: 46:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 46:

TTAGCCTGTT CCGGT 15

(48) INFORMATION FOR SEQ ID NO: 47:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 47:

GCATGCGGTT TAGCC 15

(49) INFORMATION FOR SEQ ID NO: 48:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 48:

TACCCGGTTG TCCAT 15

(50) INFORMATION FOR SEQ ID NO: 49:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 49:

GTAGAGCTGA GACAT

15

(51) INFORMATION FOR SEQ ID NO: 50:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 basepairs

(B) TYPE: nucleic acid basepairs

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 50:

GCCGTCCCAG GCCAC

15

(52) INFORMATION FOR SEQ ID NO: 51:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 basepairs

(B) TYPE: nucleic acid basepairs

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 51:

CTCGGGTGTT GATAT

15

(53) INFORMATION FOR SEQ ID NO: 52:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 basepairs

(B) TYPE: nucleic acid basepairs

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 52:

ACTATTTCAC TCCCT

15

(54) INFORMATION FOR SEQ ID NO: 53:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 53:

ACGCCATCAC CCCAC

15

(55) INFORMATION FOR SEQ ID NO: 54:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 54:

CGACGTGTCC CTGAC

15

(56) INFORMATION FOR SEQ ID NO: 55:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 55:

ACTACACCCC AAAGG

15

(57) INFORMATION FOR SEQ ID NO: 56:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 56:

CACGCTTTTA CACCA

15

(58) INFORMATION FOR SEQ ID NO: 57:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 57:

GCGACTACAC ATCCT

15

(59) INFORMATION FOR SEQ ID NO: 58:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 58:

CGGCGCATAA TCACT

15

(60) INFORMATION FOR SEQ ID NO: 59:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 59:

CCACATCCAC CGTAA

15

(61) INFORMATION FOR SEQ ID NO: 60:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 60:

CGCTGAATGG GGGAC

15

(62) INFORMATION FOR SEQ ID NO: 61:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 61:

GGAGCTTCGC TGAAT

15

(63) INFORMATION FOR SEQ ID NO: 62:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 62:

CGGTCACCCG GAGCT

15

(64) INFORMATION FOR SEQ ID NO: 63:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 63:

GGACGCCCCAT ACACG

15

(65) INFORMATION FOR SEQ ID NO: 64:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 64:

GAAGGGGAAT GGTCG

15

(66) INFORMATION FOR SEQ ID NO: 65:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 65:

AATCGCCACG CCCCC

15

(67) INFORMATION FOR SEQ ID NO: 66:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 66:

CAGCGAAGGT CCCAC

15

(68) INFORMATION FOR SEQ ID NO: 67:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs

- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 67:

GTCACCCCAT TGCTT 15

(69) INFORMATION FOR SEQ ID NO: 68:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 basepairs
 - (B) TYPE: nucleic acid basepairs
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 68:

ATCGCTCTCT ACGGG 15

(70) INFORMATION FOR SEQ ID NO: 69:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 basepairs
 - (B) TYPE: nucleic acid basepairs
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 69:

GTGTATGTGC TCGCT 15

(71) INFORMATION FOR SEQ ID NO: 70:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 basepairs
 - (B) TYPE: nucleic acid basepairs
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 70:

ACGGTATTCC GGGCC 15

(72) INFORMATION FOR SEQ ID NO: 71:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 71:

GGCCGAATCC CGCTC 15

(73) INFORMATION FOR SEQ ID NO: 72:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 72:

AAACAGTCGC TACCC 15

(74) INFORMATION FOR SEQ ID NO: 73:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 73:

CCTTACGGGT TAACG 15

(75) INFORMATION FOR SEQ ID NO: 74:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 74:

GAGACAGTTG GGAAG

15

(76) INFORMATION FOR SEQ ID NO: 75:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 75:

TGGCGTCTGT GCTTC

15

(77) INFORMATION FOR SEQ ID NO: 76:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 76:

CGACTCCACA CAAAC

15

(78) INFORMATION FOR SEQ ID NO: 77:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 77:

GATAAGGGTT CGACG

15

(79) INFORMATION FOR SEQ ID NO: 78:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 78:

ATCCGTTGAG TGACA

15

(80) INFORMATION FOR SEQ ID NO: 79

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 79:

CAGCCCGTTA TCCCC

15

(81) INFORMATION FOR SEQ ID NO: 80:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 80:

AACCTTTGGG ACCTG

15

(82) INFORMATION FOR SEQ ID NO: 81:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 81:

TAAAAGGGTG AGAAA

15

(83) INFORMATION FOR SEQ ID NO: 82:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 82:

GTCTGGCCTA TCAAT

15

(84) INFORMATION FOR SEQ ID NO: 83:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 83:

AGATTGCCCA CGTGT

15

(85) INFORMATION FOR SEQ ID NO: 84:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 84:

AATCCGAGAA AATCC

15

(86) INFORMATION FOR SEQ ID NO: 85:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO:85:

GCATTACCCG CTGGC

15

(87) INFORMATION FOR SEQ ID NO: 86:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 86:

TTAAAAGGAT TCGCT

15

(88) INFORMATION FOR SEQ ID NO: 87:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 87:

AGACCCCAAT CCGAA

15

(89) INFORMATION FOR SEQ ID NO: 88:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 88:

GACTCCGACT TCATG

15

(90) INFORMATION FOR SEQ ID NO: 89:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO:89:

GTCTTTTCGT CCTGC

15

(91) INFORMATION FOR SEQ ID NO: 90:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 90:

GTCTTATCGT CCTGC

15

(92) INFORMATION FOR SEQ ID NO: 91:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 91:

GTCTTCTCGT CCTGC

15

(93) INFORMATION FOR SEQ ID NO: 92:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 92:

GTCTTGTCGT CCTGC 15

(94) INFORMATION FOR SEQ ID NO: 93:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 93:

GTCTATTCGT CCTGC 15

(95) INFORMATION FOR SEQ ID NO: 94:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 94:

GTCTCTTCGT CCTGC 15

(96) INFORMATION FOR SEQ ID NO: 95:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 95:

GTCTGTTCGT CCTGC 15

(97) INFORMATION FOR SEQ ID NO: 96:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 96:

TTGGCCGGTG CTTCT

15

(98) INFORMATION FOR SEQ ID NO: 97:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 97:

TTGGCCGGTA CTTCT

15

(99) INFORMATION FOR SEQ ID NO: 98:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 98:

TTGGCCGGTC CTTCT

15

(100) INFORMATION FOR SEQ ID NO: 99:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 99:

TTGGCCGGTT CTTCT

15

(101) INFORMATION FOR SEQ ID NO: 100:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 100:

ACCGCGGCTG CTGGC

15

(102) INFORMATION FOR SEQ ID NO: 101:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 101:

ACCGCGGCTA CTGGC

15

(103) INFORMATION FOR SEQ ID NO: 102:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 102:

ACCGCGGCTC CTGGC

15

(104) INFORMATION FOR SEQ ID NO: 103:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 103:

ACCGCGGCTT CTGGC

15

(105) INFORMATION FOR SEQ ID NO: 104:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO:104:

CGGCAGCTGG CACGT

15

(106) INFORMATION FOR SEQ ID NO: 105:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 105:

CGGCCGCTGG CACGT

15

(107) INFORMATION FOR SEQ ID NO: 106:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 106:

CGGCTGCTGG CACGT

15

(108) INFORMATION FOR SEQ ID NO: 107:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 107:

CGTATTACCG CAGCT

15

(109) INFORMATION FOR SEQ ID NO: 108:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 108:

CGTATTACCG CCGCT

15

(110) INFORMATION FOR SEQ ID NO: 109:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 109:

CGTATTACCG CTGCT

15

(111) INFORMATION FOR SEQ ID NO: 110:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 110:

TTCCTTTGAG TTTTA

15

(112) INFORMATION FOR SEQ ID NO: 111

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 111:

TTCCTTTAAG TTTTA

15

(113) INFORMATION FOR SEQ ID NO: 112:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 112:

TTCCTTTCAG TTTTA

15

(114) INFORMATION FOR SEQ ID NO: 113:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 113:

TTCCTTTTAG TTTTA

15

(115) INFORMATION FOR SEQ ID NO: 114:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 114:

TTCCTTAGAG TTTTA

15

(116) INFORMATION FOR SEQ ID NO: 115:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 115:

TTCCTTCGAG TTTTA

15

(117) INFORMATION FOR SEQ ID NO: 116:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 116:

TTCCTTGGAG TTTTA

15

(118) INFORMATION FOR SEQ ID NO: 117:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs

- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 117:

CATGTGTCCT GTGGT 15

(119) INFORMATION FOR SEQ ID NO: 118:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 118:

CGTCAGCCCG AGAAA 15

(120) INFORMATION FOR SEQ ID NO: 119:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 119:

CACTACACAC GCTCG 15

(121) INFORMATION FOR SEQ ID NO: 120:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 120:

TGGCGTTGAG GTTTC 15

(122) INFORMATION FOR SEQ ID NO: 121:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 121:

GTCCGTGAAC CCGAT -NH₂ 15

(123) INFORMATION FOR SEQ ID NO: 122:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 122:

Gly TACGCTCTTT GAGCT -NH₂ 15

(124) INFORMATION FOR SEQ ID NO: 123:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 basepairs
- (B) TYPE: nucleic acid basepairs
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 123:

AACACTCCCT TTGGA 15